

What is BSE?

Bovine Spongiform Encephalopathy (BSE) is a **fatal neurological disease of cattle** first recognized in the United Kingdom (U.K.) in 1986. It is a transmissible spongiform encephalopathy similar to scrapie in sheep and goats, chronic wasting disease in deer and elk, and spontaneous Creutzfeldt-Jakob disease (CJD) in humans.

The human disease known as variant CJD (vCJD) was first diagnosed in 1996 in the U.K. Probable and confirmed cases of vCJD total 202 worldwide: 171 of these lived in the U.K. for at least six months. **Scientific evidence supports vCJD is caused by the same agent that causes BSE.** Evidence suggests the BSE agent may be transmitted from cattle to man through consumption of products contaminated with the infectious agent.

As a result of BSE, more than eight million cattle have been diverted from the human food chain into rendering and incineration in the U.K. BSE has affected almost 200,000 cattle in 29 countries to date.

In the U.S., three cases have been detected: a dairy cow in Washington that was born in Canada, a beef cow from Texas (June 2005), as well as a cow from Alabama (March 2006).



Estimated U.S. BSE prevalence is at < one case per 1 million cattle, or four to seven cases of BSE in 42 million adult cattle within U.S. borders.

Discovery of BSE has led to a ban on non-ambulatory disabled (downer) cattle, as well as specified risk materials (from cattle over 30 months of age) in human food.

What are the Signs of BSE?

BSE has an incubation period of two to eight years. Signs begin with changes in temperament, such as nervousness / aggression. Cattle become progressively uncoordinated, losing condition despite continued appetite. There is no treatment. Affected cattle die 2 weeks to 6 months after the first signs.

What Causes BSE?



The agent causing BSE is not fully characterized. **Most evidence suggests it comes from an abnormal protein known as a prion.**

Prions are smaller than most viruses, very resistant to heat, ultraviolet light,

radiation, and disinfectants. This prion causes no detectable immune or inflammatory response.

How is BSE Spread?

BSE spreads among cattle principally through feed containing meat and bonemeal made of rendered ruminant products from infected animals. In 1997, the U.S. and Canada banned these products in ruminant feed to prevent BSE transmission.

Debate is ongoing about the possibility of spontaneously arising or sporadic BSE.

Cattle producers are the front line of defense in preventing BSE by ensuring that feed containing rendered mammalian tissues are NOT fed to ruminants.

Preventing the Entry of BSE:

In July 1989, the United States Department of Agriculture (USDA) banned importation of live ruminants and most ruminant products from BSE affected countries. In December 2000, the USDA banned the importation of all rendered animal products from Europe, regardless of species. BSE continues to affect export markets for beef, and beef products, and consumer confidence.

BSE Surveillance in the U.S.:

In 1990, BSE surveillance began. It consists of examining brain tissue from cattle showing neurological signs and targeted samples of high-risk cattle. During 2005, more than 88,000 samples from California, and 575,436 samples nationwide, were examined for BSE.



The U.S. Feed Ban:

Since August 1997, the Food and Drug Administration (FDA) has prohibited the use of protein derived from mammalian tissues (with certain exceptions including milk, blood, porcine and equine products) in ruminant feed. A ruminant is any animal that has a four-chambered stomach, including: cattle, buffalo, sheep, goats, deer, elk, and antelope. Feed manufacturers are required to label all feed that contains prohibited materials with this statement: **"Do not feed to cattle or other ruminants"**.

Compliance Within California:

Inspections conducted at California feed manufacturing facilities, and ruminant feeding operations, have found no significant deviations from the FDA Rule on prohibited animal proteins. As of October 2005, the FDA estimates that 95-99 percent of all feed-manufacturing facilities in the U.S. are in compliance with the feed ban requirements.

Please call the appropriate numbers listed on this brochure if you have knowledge of the illegal importation of animals, or animal products, or the feeding of prohibited materials.

Protecting California Consumers:

On December 30, 2003 (amended September 2005), the following are banned from entering the human food supply:

- Non-ambulatory disabled cattle (**downers**)
- **Specified risk materials** - the skull, brain, trigeminal ganglia, eyes, vertebral column, spinal cord, and dorsal root ganglia from animals over 30 months old
- The small intestine (distal ileum) and tonsils from cattle of any age
- Animal material from **mechanically separated beef**
- Any material from cattle not inspected and passed for human consumption is banned.

Scientific evidence shows that meat and milk from these animals are safe to eat and drink.

What Should Producers Do?

- Comply with the feed ban - **Do not feed products containing prohibited materials to ruminants.** Be diligent that commodities do not contain any prohibited materials (e.g., salvaged pet foods).
- **Keep copies of all feed records** – invoices and labels – for at least two years, and have them available for inspection. Farm inspections help ensure prohibited materials are not being fed to ruminants. Regulatory action can be taken under the Federal Food, Drug and Cosmetic Act for non-compliance.
- **Establish an individual animal identification plan for your herd.** **Maintain accurate records** when animals enter and leave your herd.
- **Report cattle with neurological signs to your veterinarian ASAP.**
- Humanely euthanize non-ambulatory cattle. Guidelines available from CDFA.
- Dispose of carcasses appropriately, such as with a licensed renderer or other legal methods.

Important Phone Numbers

California Department of Food and Agriculture

For BSE concerns and questions, please call:
Animal Health Branch

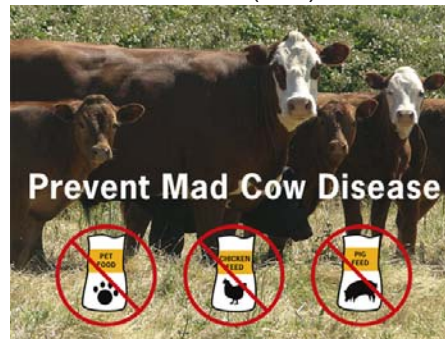
Headquarters	(916) 654-1447
Redding District	(530) 225-2140
Modesto District	(209) 491-9350
Tulare District	(559) 685-3500
Ontario District	(909) 947-4462

For animal feed questions, please call:
Inspection Services Agricultural Commodities and Regulatory Services

Headquarters	(916) 445-0444
Fresno	(559) 452-9687
Ontario	(909) 930-9689
Imperial	(760) 355-2877

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For reporting illegal animal movement, call:
USDA-APHIS Veterinary Services

Sacramento	(916) 857-6170
Toll Free	(877) 741-3690



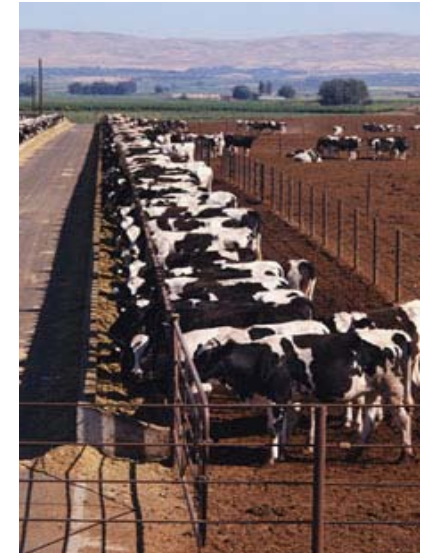
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Visit our Web site at www.cdfa.ca.gov.

J:/Outreach/Brochures/LivestockHealth/BSE/BSE_Brochure_May2007
Additional formats are available upon request.



Animal Health and Food Safety Services



Bovine Spongiform Encephalopathy

“Mad Cow Disease”

**Producer Update
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